processing the projection view image on a server graphics accelerator to produce a scaled-down image having a transmission size less than a transmission size of the projection view image;

transmitting the scaled-down image from the server to a the client;

processing the scaled-down image on a client graphics accelerator to substantially reproduce the projection view image; and

displaying the substantially reproduced projection view image on the client.

2. (Original) The method of claim 1, wherein processing the projection view image on the server graphics accelerator comprises:

reformatting the projection view image into a native processing format of the server;

binding the reformatted projection view image into a texture memory to form a texture map;

applying the texture map to a polygon having a predetermined scaling factor to form the scaled-down image; and

reformatting the scaled-down image into a native processing format of the client.

3. (Original) The method of claim 1, wherein the scaled-down image is transmitted from the server graphics accelerator to the client graphics accelerator through a network medium.

4.   (Original) The method of claim 1, wherein the projection view image is substantially reproduced on the client graphics accelerator by scaling the scaled-down image to increase the transmission size of the scaled-down image.

5.   (Currently Amended) The method of claim 1, wherein the <u>substantially reproduced</u> projection view image is displayed on the client to a user using adaptive resolution.

6.   (Original) The method of claim 5, wherein the adaptive resolution comprises adaptively setting end resolution from lossy to lossless factors.

7.   (Currently Amended) The method of claim 6, wherein the <u>substantially reproduced</u> projection view image is displayed using lossy factors while the graphical data is being manipulated.

8.   (Currently Amended) The method of claim 6, wherein the <u>substantially reproduced</u> projection view image is displayed using lossless factors while the graphical data is stationary.

9.   (Currently Amended) The method of claim 8, wherein the <u>substantially reproduced</u> projection view image is displayed in a one-to-one pixel resolution.

10. (Original) The method of claim 1, wherein the server and the client reside on a single computer.

11. (Original) The method of claim 1, wherein the server functions as a collaboration hub for the client.

12. (Original) The method of claim 1, wherein the server and the client operate in a remote execution networking environment.

13. (Currently Amended) The method of claim 1, wherein the client functions as a client/-collaboration hub.

14. (Original) The method of claim 13, wherein the server is connected to the client by the client/collaboration hub.

15. (Original) The method of claim 1, wherein the client functions as a client/ASP server.

16. (Original) The method of claim 15, wherein the server is connected to the client by the client/ASP server.

17. (Original) The method of claim 15, wherein the server is connected to the client by the client/ASP server and a client/collaboration hub.

18. (Currently Amended) The method of claim 2̶1̲, further comprising the steps of:̶_compressing the scaled-down image on the server to further reduce the transmission size of the scaled-down image;̲.

~~establishing communication with the client; and~~

~~retrieving information from the client graphics accelerator to reformat the scaled-down image into the native processing format of the client.~~

19. (Currently Amended) The method of claim ~~1~~,2 further comprising the steps of:~~—~~ retrieving information from the client graphics accelerator to reformat the scaled-down image into the native processing format of the client.

~~The method of claim 1, further comprising the steps of:~~

~~manipulating the graphical data to create a new projection view image;~~

~~processing the new projection view image on the server graphics accelerator to produce a new scaled-down image having a transmission size less than a transmission size of the new projection view image;~~

~~transmitting the new scaled-down image from the server to the client;~~

~~processing the new scaled-down image on the client graphics accelerator to substantially reproduce the new projection view image; and~~

~~displaying the new projection view image on the client.~~

20. (New) The method of claim 1, further comprising the steps of:

manipulating the graphical data to create a new projection view image;

processing the new projection view image on the server graphics accelerator to produce a new scaled-down image having a transmission size less than a transmission size of the new projection view image;

transmitting the new scaled-down image from the server to the client;

processing the new scaled-down image on the client graphics accelerator to substantially reproduce the new projection view image; and

displaying the substantially reproduced new jprojection view image on the client.

21.   (New)   The method of claim 20, further comprising the step of transmitting protocols to the client for enabling a user to manipulate the graphical data as the substantially reproduced new projection view image is displayed.

22.   (New)   The method of claim 21, wherein the protocols comprise window protocol calls.

23.   (New)   The method of claim 21, wherein the protocols comprise user interface information.

24.   (New)   A method for transmitting graphical data to one or more clients, the graphical data representing a three-dimensional model of an object, the method comprising the steps of:

rendering the graphical data on a server to form a projection view image;

processing the projection view image on a server graphics accelerator to produce a scaled-down image having a transmission size less than a transmission size of the projection view image; and

transmitting the scaled-down image to at least one client.

25. (New) The method of claim 24, wherein processing the projection view image on the server graphics accelerator comprises:

reformatting the projection view image into a native processing format of the server;

binding the reformatted projection view image into a texture memory to form a texture map;

applying the texture map to a polygon having a predetermined scaling factor to form the scaled-down image; and

reformatting the scaled-down image into a native processing format of the client.

26. (New) The method of claim 24, further comprising the steps of:

manipulating the graphical data to create a new projection view image;

processing the new projection view image on the server graphics accelerator to produce a new scaled-down image having a transmission size less than the transmission size of the new projection view image; and

transmitting the new scaled-down image from the server to the client.

27. (New) The method of claim 24, further comprising the step of transmitting protocols to the client for enabling a user to manipulate the graphical data.

28. (New)   The method of claim 27, wherein the protocols comprise window protocol calls.

29. (New) The method of claim 27, wherein the protocols comprise user interface information.

30. (New) A method for displaying graphical data on a client, the graphical data representing a three-dimensional model of an object, the method comprising the steps of:

receiving a scaled-down image from a server, the scaled-down image representing a smaller perspective of a projection view image rendered from the graphical data on the server;

processing the scaled-down image on a client graphics accelerator to substantially reproduce the projection view image; and

displaying the substantially reproduced projection view image on the client.

31. (New)   The method of claim 30, wherein the scaled-down image has a transmission size less than a transmission size of the projection view image.

32. (New)   The method of claim 31, wherein the projection view image is substantially reproduced on the client graphics accelerator by scaling the scaled-down image to increase the transmission size of the scaled-down image.

33. (New)   The method of claim 30, wherein the projection view image is displayed on the client to a user using adaptive resolution.

34. (New) The method of claim 30, further comprising the step of receiving protocols from the server for enabling a user to manipulate the graphical data.

35. (New) The method of claim 34, wherein the protocols comprise window protocol calls.

36. (New) The method of claim 34, wherein the protocols comprise user interface information.

37. (New) A system for the remote display of graphical data, the graphical data representing a three-dimensional model of an object, the system comprising:

a server;

a server application rendering module configured to render the graphical data in the form of a projection view image;

a server graphics accelerator configured to produce a scaled-down image from the projection view image, the scaled-down image having a transmission size less than a transmission size of the projection view image;

a network for transmitting the scaled-down image to a client;

a client graphics accelerator configured to substantially reproduce the projection view image; and

a monitor for displaying the substantially reproduced projection view image on the client.

38. (New) The system of claim 37, wherein the graphical data may be manipulated to form a new projection view image, the server graphics accelerator being further configured to process the new projection view image to produce a new scaled-down image having a transmission size less than the transmission size of the new projection view image, the new scaled-down image being transmitted over the network from the server to the client, the client graphics accelerator being further configured to process the new scaled-down image to substantially reproduce the new production view image, the monitor displaying the substantially reproduced new production view image.

39. (New) The system of claim 38, wherein protocols are transmitted over the network from the server to the client for enabling a user to manipulate the graphical data as the substantially reproduced new production view image is displayed on the monitor.

40. (New) The system of claim 39, wherein the protocols comprise window protocol calls.

41. (New) The system of claim 39, wherein the protocols comprise user interface protocol calls.

42. (New) The system of claim 37, wherein the local server and the client reside on the same computer.

43. (New) The system of claim 37, wherein the server functions as a collaboration hub for the client.

44. (New) The system of claim 37, wherein the server and the client operate in a remote execution networking environment.

45. (New) The system of claim 37, wherein the client functions as a client/collaboration hub.

46. (New) The system of claim 45, wherein the server is connected to the client by the client/collaboration hub.

47. (New) The system of claim 37, wherein the client functions as a client/ASP server.

48. (New) The sytem of claim 47, wherein the server is connected to the client by the client/ASP server.

49. (New) The system of claim 47, wherein the server is connected to the client by the client/ASP server and a client/collaboration hub.

50. (New) A system for transmitting graphical data to one or more clients, the graphical data representing a three-dimensional model of an object, the system comprising:

a server;

a server application rendering module configured to render the graphical data in the form of a projection view image;

a server graphics accelerator configured to produce a scaled-down image from the projection view image, the scaled-down image having a transmission size less than a transmission size of the projection view image; and

a network for transmitting the scaled-down image to a client.

51. (New) The system of claim 50, wherein the server graphics accelerator is further configured to:

reformat the projection view image into a native processing format of the server;

bind the reformatted projection view image into a texture memory to form the texture map;

apply the texture map to a polygon having a predetermined scaling factor to form the scaled-down image; and

reformat the scaled-down image into a native processing format of the client.

52. (New) The system of claim 50, wherein the graphical data may be manipulated to form a new projection view image, the server graphics accelerator being further configured to process the new projection view image to produce a new scaled-down image having a transmission size less than the transmission size of the new projection view image, the new scaled-down image being transmitted over the network from the server to the client.

53. (New) The system of claim 50, wherein protocols are transmitted over the network from the server to the client for enabling a user to manipulate the graphical data.

54. (New) The system of claim 53, wherein the protocols comprise window protocol calls.

55. (New) The system of claim 53, wherein the protocols comprise user interface information.

56. (New) A system for displaying graphical data on a client, the graphical data representing a three-dimensional model of an object, the system comprising:

a client for receiving a scaled-down image from a server, the scaled-down image representing a smaller perspective of a projection view image rendered from the graphical data on the server;

a client graphics accelerator for processing the scaled-down image to substantially reproduce the projection view image; and

a monitor for displaying the substantially reproduced projection view image on the client.

57. (New) The system of claim 56, wherein the scaled-down image has a transmission size less than the transmission size of the projection view image.

58. (New) The system of claim 57, wherein the projection view image is substantially reproduced on the client graphics accelerator by scaling the scaled-down image to increase the transmission size of the scaled-down image.

59. (New) The system of claim 56, wherein the projection view image is displayed on the client to a user using adaptive resolution.

60. (New) A method for the remote manipulation and display of graphical data, the graphical data representing a three-dimensional model of an object, the method comprising the steps of:

rendering the graphical data on a server to form a projection view image;

processing the projection view image to produce a scaled-down image having a transmission size less than the transmission size of the projection view image;

transmitting the scaled-down image from the server to a client;

processing the scaled-down image to substantially reproduce the scaled-down image;

displaying the substantially reproduced projection view image on the client;

manipulating the graphical data to create a new projection view image;

processing the new projection view image to produce a new scaled-down image having a transmission size less than a transmission size of the new projection view image;

transmitting the new scaled-down image from the server to the client;

processing the new scaled-down image to substantially reproduce the new projection view image; and

displaying the substantially reproduced new projection view image on the client substantially contemporaneous with the manipulation of the graphical data.

Remarks

Claims 1-60 are now presented in this application for consideration on the merits.

Claims 1, 5, 7, 8, 9, 13, 18 and 19 have been amended. Claims 20-60 are new.

No new matter is introduced into this application by way of these amendments.

Accordingly, early and favorable consideration of the claims on the merits is requested.

The Commissioner is hereby authorized to charge any amount required to Deposit Account No. 19-2112.
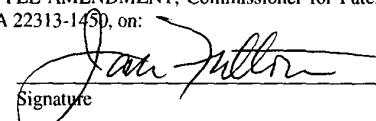
Respectfully submitted,

Date: 8/26/03

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